5.2 TUNNEL SEGMENT – CONNECTING EASTERN AND WESTERN SEGMENTS

May be used in Alignments A, B, D, and E

One of the greatest challenges and questions for the trail in the Takoma area is where to cross the Metro tracks. An extended tunnel would allow trail users to cross under the tracks without mixing with automobile traffic. This idea was proposed in the Takoma Central District Plan to improve access to the station from the west..

Route (from east to west): The tunnel would go through the Metro embankment with an entrance adjacent to the existing elevator tunnel (see Photo 11).

Photo 11. The tunnel would emerge on the western side of the tracks at a higher elevation than the current entrance (due to existing grade changes).

Tunnel Segment Criteria and Descriptions

Brief Description		The segment would be a new tunnel through the Metro embankment adjacent to the elevator tunnel that would connect eastern and western alignments. Can be used in Alignments A, B, D, and E.
Continuity	●	**GOOD.** Zero (0) intersection crossings.
Elevation Change	◐	**AVERAGE.** Slight change in grade from east to west.
Trail Access	◐	**AVERAGE.** Provides access to residential property on Spring Place and Blair Rd.
Metro Access	●	**GOOD.** Provides direct access to the elevator tunnel.
Trail Safety	●	**GOOD.** Provides safe crossing between east and west sides of railroad tracks.
Personal Security	○	**POOR.** Tunnel will be open at all hours and unattended. Similar to concerns at the Metro elevator tunnel.
Economic Development	◐	**AVERAGE.** Provides access to businesses along Spring Pl.
Aesthetics of Trail	◐	**AVERAGE.** Tunnel is part of the Metro site and will blend in with other Metro uses.
Neighborhood Impact	○	**LOW.** Tunnel will add more visibility to underused areas of Chestnut St. and Spring Pl.
Environmental Impact	◐	**MODERATE.** Tunnel may affect slope on the western side of the tracks.
Construction Costs	○	**HIGH.** Requires engineering and constructing a new tunnel under the Metro tracks through the embankment.
Land Acquisition	○	**HIGH.** Requires acquisition of easements or purchase of WMATA land under the rail line.

Low ● Good Moderate ◐ Average High ○ Poor

5.3 WESTERN ALIGNMENTS

Two western alignments are analyzed in this study. They are Alignment D and Alignment E.

5.3.1 Alignment D (Consisting of Western Segments 2 and 3)

Western Segment 2

Route (south to north): Begin at the intersection of Kansas Avenue, North Dakota Avenue, and Blair Road. Blair Road, from its intersection with Kansas Avenue and North Dakota Avenue, to the intersection with Underwood Street, would be designed as an on-road two-way bicycle path. At this point, the trail and the rail line are at the same grade. Continuing northbound, the trail would be above Blair Road cantilevered off the Metro retaining wall. One or all of the northbound lanes of traffic between Kansas and Van Buren Street would be removed to accommodate the bike trail. This area is predominantly residential with a mix of detached homes and apartment buildings. Blair Road in this area has relatively heavy traffic levels, particularly during morning and evening rush hours (Photo 4). The trail continues northbound at grade with the rail line until reaching land just beyond the Butternut Street intersection that is at grade with the rail line (Photo 12). At this point, the trail passes at grade behind the Chinese restaurant and liquor store before accessing a proposed trail bridge over Cedar Street (Photo 13).

Western Segment 2 Criteria and Descriptions

Brief Description		Blair Rd. on street to Underwood St. and change up to a cantilevered bridge/trail on top of wall to cross Cedar St. on a bridge. Used in Alignment D.
Continuity	●	**GOOD.** Zero (0) intersection crossings.
Elevation Change	●	**GOOD.** Flat, no change in grade.
Trail Access	○	**POOR.** Segment travels along grade separated trail for 2,000 feet with access points only at the two ends.
Metro Access	◎	**AVERAGE.** North end of segment provides close access to Metro Station and bus stops.
Trail Safety	●	**GOOD.** Majority of trail at grade with rail line eliminating conflicts with all street intersections and traffic.
Personal Security	○	**POOR.** Blair Rd. to Underwood St. intersection is well traveled and well lit. Remainder of segment would be above grade trail with no exit points and long areas with limited emergency vehicle access.
Economic Development	◎	**AVERAGE.** Provides limited access to retail/commercial areas along Cedar Street, some access to 4th St.
Aesthetics of Trail	○	**POOR**. Above grade trail will be highly visible from apartments on west side of Blair Rd.
Neighborhood Impact	◎	**MODERATE.** Requires use of WMATA land behind the Chinese restaurant and liquor store on the Blair Rd. side of Cedar St.
Environmental Impact	●	**LOW.** Trail will need stormwater run-off controls above Blair Rd.
Construction Costs	○	**HIGH.** Bridge-type trail at-grade with rail line and bridge over Cedar St. would be very expensive to design and construct.
Land Acquisition	◎	**MODERATE.** Requires acquisition of easements or purchase of WMATA land along wall and behind liquor store.

Low ● Good Moderate ◎ Average High ○ Poor

Photo 12. View south along the rail line and Blair Road. At this point, Segment 2 uses the elevated land in the foreground and runs along the retaining wall above the street.

Photo 13. Rail line crossing Cedar Street. Segment 2 calls for a trail bridge at the same level as the railroad bridge.

Western Segment 3

Route (south to north): Begin on the north side of Cedar Street at-grade with rail line. A ramp next to the Cedar Crossing development would provide access to Metro and the 4th Street business area. Continue at grade with rail line to Piney Branch Road. Two options are proposed to cross Piney Branch Road to access the remainder of the trail: Option 1 involves construction of a series of switchbacks along the hillside to meet the sidewalk on the south side of Piney Branch Road (Photo 14). Travel east on Piney Branch Road and cross at the crosswalk. Option 2 would construct a bridge at grade with the west side of the rail line to cross Piney Branch Road. A ramp system with a 180-degree turn would provide a gradually-sloped access to the sidewalk (Option 2 is incorporated in the cost estimates). Continue east on sidewalk along Piney Branch Road and turn left at the Eastern Avenue intersection. Alignment D requires extensive engineering and construction to accommodate the cantilevered bike trail attached to the Metro retaining wall above ground level. It would also require the acquisition of private property between Cedar Street and Piney Branch Road along the rail line.

Western Segment 3 Criteria and Descriptions

Brief Description		Trail along the western side of the rail tracks to a bridge at Piney Branch Rd. or use switchbacks to get down to Piney Branch. Used in Alignment D.
Continuity	●	**GOOD.** Zero (0) intersection crossings.
Elevation Change	◎	**AVERAGE.** Flat, no change in grade. Ramps down to Metro and other access points would require a short, steep ramp.
Trail Access	◎	**AVERAGE.** Segment travels along grade separated trail with access points only at the two end points. This trail segment is relatively short.
Metro Access	◎	**AVERAGE.** South end of segment provides close access to Metro Station and bus stops.
Trail Safety	●	**GOOD.** Majority of trail at grade with rail line eliminating conflicts with all street intersections and traffic. May require crossing Piney Branch at Eastern Ave. crosswalk (Option 1).

Western Segment 3 Criteria and Descriptions, continued

Personal Security	◘	**AVERAGE.** Trail is somewhat isolated from well traveled areas as it travels between private property and rail line. Requires increased lighting. Limited police presence.
Economic Development	◘	**AVERAGE.** South end of segment provides direct access to Cedar St. and 4th St. retail and commercial districts.
Aesthetics of Trail	◘	**AVERAGE.** Segment travels between private property and rail line. Trail will be visible from private homes and proposed housing development.
Neighborhood Impact	◘	**MODERATE.** Dependent largely on amount of private property required to construct trail. Mostly industrial uses now.
Environmental Impacts	◘	**MODERATE.** Trail may affect vegetation along rail line. Erosion and runoff may be a factor during construction.
Construction Costs	○	**HIGH.** Separated at-grade trail along rail line, bridge over Piney Branch and a ramp down to the sidewalk or switchbacks down the hill on the WMATA property at Piney Branch..
Land Acquisition	○	**HIGH.** Requires acquisition of easements or purchase of WMATA land and possible private property along rail line.

Low ● Good Moderate ◘ Average High ○ Poor

Photo 14. View west along southern side of Piney Branch Road sidewalk. Grass hillside could accommodate series of switchbacks to gradually move trail users up and down the slope as part of Segment 3 and Segment 4 (Alignments D and E). This approach would require crossing Piney Branch Rd at grade at Eastern Ave.

Photo 15. View southwest from the north side of Piney Brand Road sidewalk. This approach would require crossing Piney Branch Rd at grade at Eastern Ave. Or the switchback could be constructed on the northwest side of Piney Branch Rd, allowing for a trail bridge over Piney Branch Rd.

Alignment D Cost Estimate

Trail Element	Length (feet)	Type of Trail	Cost
Blair Road (Kansas to Underwood)	2,490	On-street Bike Path	$57,270
Blair Road	1,993	Cantilevered Bridge	$2,656,669
Behind Liquor Store	414	Structure/Bridge	$910,800
Cedar Street	95	Structure/Bridge	$209,000
Metro Property	1,117	Structure/Bridge	$2,457,400
Piney Branch Road (Opt. 2)	100	Structure/Bridge	$220,000
Ramp down to Piney Branch (Opt.2)	200	Structure/Bridge	$440,000
TOTALS:	**6,409**		**$6,951,139**

SELECT TO VIEW:

Figure 6 Western Alignment D Map